

## REMARKS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Official Action provided, for the acknowledgment of Applicants' Information Disclosure Statements by return of the Forms PTO-1449, for the acknowledgment of Applicants' Claim for Priority, and for acknowledging that the Drawings are acceptable.

Additionally, Applicants would like to thank the Examiner for the indication that claims 6-9 contain allowable subject matter (*see* page 7 of the Official Action).

Upon entry of the above amendments, Claims 1-9, 11 and 12 will have been amended, and claims 13-15 will have been added. Claims 1-9 and 11-15 are currently pending. Applicants respectfully request reconsideration of the outstanding rejections, and allowance of all the claims pending in the present application.

### *Rejection under 35 U.S.C. § 112*

In the Official Action, the Examiner rejected claim 1 under 35 U.S.C. § 112, first paragraph.

In setting forth the rejection, the Examiner asserts that the Specification does not elaborate on the function of the presently claimed sound inlet aperture.

Without acquiescing to the propriety of the Examiner's rejection, Applicants submit that claim 1 (*as well as claims 5 and 11*) have been amended, where appropriate, to clarify that the sound generating device is configured to transmit sound through the sound inlet aperture and into the detection chamber (*see, e.g., Figure 3 of the present Application*).

Accordingly, Applicants submit that the rejection of claim 1 under 35 U.S.C. §

112 is believed to be moot and should be withdrawn.

***Rejections under 35 U.S.C. §§ 102 and 103***

In the Official Action, the Examiner rejected claim 5 under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, obvious over OBER (U.S. Patent No. 4,438,428);

the Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over MOORE et al. (U.S. Patent No. 4,845,474) in view of OBER; and

the Examiner rejected claims 4, 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over MOORE in view of GOURLAY (U.S. Patent No. 3,787,741) *[presumably the Examiner intends to reject claims 4, 11 and 12 as being unpatentable over OBER, MOORE and GOURLAY since the Examiner relies on OBER in the body of the Official Action to support the rejection of these claims, see page 5 of the Official Action]*..

Without acquiescing to the propriety of the Examiner's above-noted rejections, Applicants have amended independent claims 1, 5 and 11 solely in order to more clearly recite the presently claimed invention and to expedite prosecution of the present application.

In this regard, Applicants submit that none of the applied prior art, alone or in any properly reasoned combination, discloses the combination of features as recited in independent claims 1, 5 and 11.

In particular, claim 1 sets forth a smoke alarm assembly including: a smoke detection chamber defined by a body having a plurality of openings that allows airflow therethrough, the body comprising a sound inlet aperture configured to admit sound into the chamber; a smoke detector mounted to the body for communication within the chamber; an electrical circuit operatively connected to the smoke detector, the circuit providing an electrical signal when the smoke detector detects smoke in the chamber; and a sound generating device mounted external to the chamber and adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal, and the sound generating device configured to transmit sound through the sound inlet aperture and into the chamber, wherein the chamber is sized and shaped to cause resonance at the operating frequency of the sound generating device.

Applicants submit that the applied prior art, alone or in any properly reasoned combination, lacks any disclosure of at least the above-noted combination of features.

In setting forth the rejection, the Examiner asserts, inter alia, that OBER discloses a sound hole 95 which lets air into the chamber and an audio alarm 19. In this regard, the Examiner asserts that the sound hole 95 of OBER is equivalent to the presently claimed air inlet aperture and that the alarm 19 comprises the sound generation device. Additionally, the Examiner asserts that the resonator 96 of OBER is equivalent to the presently claimed resonator.

However, contrary to the Examiner's assertions, Applicants submit that the devices of the applied prior art are very different structurally from the presently claimed invention.

More specifically, Applicants submit that the alarm 19 of OBER (*which the*

*Examiner considers to be equivalent to the presently claimed sound generating device*), at best, transmits sound to an exterior of the housing 11. That is, Applicants submit that, since the piezoelectric disc of OBER is positioned within the housing 11, any sound generated by the alarm 19 will be transmitted to an exterior of the housing 11.

Additionally, Applicants submit that the transducer 12 of MOORE, which the Examiner considers to be equivalent to the presently claimed sound generating device, is positioned between the circuit board 26 and a ring 18 of the housing 10 (see Figures 1 and 9 of MOORE).

Thus, Applicants submit that none of the applied prior art, alone or in any properly reasoned combination, discloses the sound generating device configured to transmit sound through the sound inlet aperture and into the chamber, as recited in amended claim 1.

Further, Applicants submit that claim 1 also recites that the smoke detection chamber is defined by a body having a plurality of openings that allows airflow therethrough, the body comprising a sound inlet aperture configured to admit sound into the chamber.

Applicants submit that OBER, alone or in any properly reasoned combination, also lacks any disclosure of the aforementioned features.

More specifically, Applicants submit that OBER discloses that the plate assembly 13 defines a longitudinal smoke chamber 74 through which air may pass from the immediate environment of alarm device 10 and with which both LED 72 and photocell 73 communicate. Additionally, OBER discloses that the smoke chamber 74 is entirely formed by lower plate 30 together with upper plate 31 on the side of plate assembly 13

(see, column 6, lines 22-28 of OBER).

Additionally, Applicants submit that OBER discloses that several exit ports may be incorporated into smoke chamber 74 and should be strategically positioned to enhance continuous passage of environmental air therethrough, and that it is preferable to position a first slot port 80 in upper plate 31 at the end of smoke chamber 74 furthest from entrance port 79, and to provide a second slot port 81 in the side wall of lower plate 30 in the vicinity of box 76 (see, column 6, lines 41-48).

Therefore, Applicants submit that the exit ports 80 and 81, positioned at an end of the smoke chamber 74, are remote from the resonance chamber 96.

More simply put, Applicants submit that OBER discloses the smoke chamber 74 and the resonance chamber 96 being completely separate.

Thus, Applicants submit that the applied prior art, alone or in any properly reasoned combination, also fails to disclose at least the presently claimed body (*i.e., defining the smoke detection chamber*) having a plurality of openings that allow airflow therethrough, and the body comprising a sound inlet aperture, as generally recited in claim 1.

Further, Applicants submit that the presently claimed smoke detection chamber, which is defined by the body comprising the sound inlet aperture, has at least one advantage over the applied prior art in that it is configured to provide both a sound amplifying function and smoke detection function (see, e.g., page 5, lines 21-25 of the present Specification).

Accordingly, Applicants submit that the rejection of claim 1 under 35 U.S.C. § 103 is improper and should be withdrawn.

Applicants further submit that independent claim 5, as amended, is somewhat similar to independent claim 1 in that it recites a smoke detection chamber defined by a body having a plurality of openings that allows airflow therethrough, the body comprising a sound inlet aperture configured to admit sound into the chamber; a photoelectric sensor mounted to the body for communication within the chamber; a light source mounted to the body for communication with the chamber; an electrical circuit operatively connected to a sensor, the circuit providing an electrical signal when the sensor detects smoke in the chamber; and a sound generating device mounted external to the chamber and adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal, and the sound generating device configured to transmit sound through the sound inlet aperture and into the chamber, wherein the chamber is sized and shaped to cause resonance at the operating frequency of the sound generating device.

Applicants further submit that independent claim 11, as amended, is somewhat similar to independent claim 1 in that it recites, a smoke detection chamber defined by a body having a plurality of openings that allows airflow therethrough, the body comprising a sound inlet aperture configured to admit sound into the chamber; a sensor mounted to the body for communication within the chamber; an electrical circuit operatively connected to the sensor, the circuit providing an electrical signal when the sensor detects smoke in the chamber; and a sound generating device mounted external to the chamber and adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal, and the sound generating device configured to transmit sound through the sound inlet aperture and into the chamber, wherein: the

chamber is configured to cause resonance at an operating frequency of the sound generating device; and the body is configured such that the volume of the chamber is generally in accordance to the Helmholtz formula at the operating frequency of the sound generating device.

Accordingly, the rejections of claims 5 and 11 under 35 U.S.C. §§ 102 and 103 are improper for generally all the above reasons set forth with respect to claim 1, and withdrawal thereof is respectfully requested.

Accordingly, Applicants submit that the rejections of claims 1-5, 11 and 12 under 35 U.S.C. §§ 102 and 103 are improper, and should be withdrawn.

Applicants also submit that newly-added dependent claims 13 -15 recite additional features of the presently claimed invention, and are fully supported by at least Figure 3 of the present Application.

In view of the amendments and remarks herein, Applicants submit that independent claims 1, 5 and 11 are in condition for allowance. With regard to dependent claims 2-4, 6-9 and 12 (as well as newly-added claims 13-15) Applicants submit that these claims are allowable on their own merit, as well as because of their respective dependencies from independent claims 1, 5, and 11, which Applicants have shown to be allowable.

Thus, it is respectfully submitted that all pending claims in the present application are clearly patentable over the applied reference cited by the Examiner, and an indication to such effect is respectfully requested, in due course.

## SUMMARY

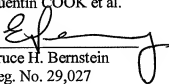
Applicants submit that the present application is in condition for allowance, and respectfully requests an indication to that effect. Applicants have argued the allowability of the claims and pointed out deficiencies of the applied references. Accordingly, reconsideration of the outstanding Official Action and allowance of the present application and all the claims therein are respectfully requested and is now believed to be appropriate.

Applicants note that this amendment is being made to advance prosecution of the application to allowance and should not be considered as surrendering equivalents of the territory between the claims prior to the present amendment and the amended claims. Further, no acquiescence as to the propriety of the Examiner's rejections is made by the present amendment. All other amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.



Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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